

to another then the planetary ring gear stops by itself and the torque is then transmitted in a mechanical way.

(Claims)

In reference to the claim 3, it is correct that the brake 8 is applied to the satellites carrier (drum 6) ONLY at the time that shifting operation takes place. At this time the brake 7 is NOT engaged. (Page 6, lines 17, 18 and 19).

NOTE: The free wheel is useful at starting time or when a strong resistance is found at the driving wheels. If the brake 8 stops the drum 6 at the same time as the brake 7 stops the drum 9 the engine stops too. For this reason the brake 8 is operated ONLY when the brake 7 is released.

In reference to claims 1 and 3 over Hatch, we consider that:

- I) Hatch transmission is based on a different functioning principle.
- II) NO free wheel is found for connecting with any ring gear.
- III) The output shaft is not connected with the satellites carrier.
- IV) Multi disk clutches are required.

In our transmission:

- I) A free wheel is essential to permit the ring gear rotation to be free in one way
- II) No multi disk clutches are found in the mechanism
- III) The working principle is not based on a differential system.
- IV) The output shaft to the shifting device is connected with the satellites carrier.

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Amendments to the Claims.

Claims 1-4 (currently amended)

Claim 5 (canceled)

Claim 6 (canceled)

Claim #1

*Sub C07*  
A hydro mechanical automatic transmission for automobiles and motorcycles having a ~~source of moving force~~ having an engine and driving wheels,

Comprising:

- B1*
- a) An input shaft connected in a permanent way to the engine for transmitting the torque to the transmission converting devices.
  - a) b) ~~A permanent connected complementary hydraulic means~~ a hydraulic device also connected in a permanent way to said input shaft to a mechanical device for hydraulically converting and transmitting torque from the engine source of ~~moving force~~ to the driving wheels.
  - b) A ~~permanent connected complementary~~ mechanical power converter device connected in a permanent way to said input shaft for mechanically converting and transmitting torque from the engine source of moving force to the driving wheels.
  - c) D) ~~A an optional~~ shifting device as driving selector mean.
  - d) A linking device for keeping a permanent connection between said mechanical device and the hydraulic device.
  - e) A hydraulic driving device.

## Claim # 2

A hydro mechanical automatic transmission for automobiles ~~and motorcycles~~ as set forth in Claim # 1, in which the ~~complementary mechanical power converter device~~ the mechanical device.

Comprises:

- a) A single planetary gear set.
- b) A free wheel associated to a planetary ring gear and to a drum.
- c) A brake device associated to said drum and to a free wheel.

## Claim # 3

B1  
5X  
A hydro mechanical automatic transmission for automobiles and motorcycles as set forth in Claim # 1, in which the hydraulic device ~~the complementary hydraulic means~~ also comprises:

- a) An output shaft for hydraulically transmitting the torque from the engine to the shifting device.
- a) b) A brake device for momentary partially stopping said hydraulic device means, only for shifting purposes,

## Claim # 4

A hydro mechanical automatic transmission for automobiles as set forth in Claim # 1 having an engine ~~a source of moving force~~ and driving wheels in which the shifting device as a selector mean comprises:

- a) A planetary bevel gear set.
- b) A striated planetary body.
- c) A sliding shifting coupling.
- d) A yoke associated to a sliding shifting coupling.
- e) A locking device ~~lever~~ for shifting the reverse position,

Claim # 5 (canceled),

B1  
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Claim # 6 (canceled)

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It is another object of the invention to provide an improved automatic transmission for automobile/motorcycles by removing out any device intended for modifying the hydraulic torque converter's efficiency in such a way that a much better mechanical simplicity is still obtained and the production cost can be even lower.

It is object to improve fuel consumption

It is also another object, to reduce, even more, the cost of repairs. The mechanism also becomes lighter in weight because less components are needed.

No complex devices, such as valve boxes, electronic devices as control means or multi-disc clutches are no longer used.

#### **BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING..**

Various other objects, features and attendant advantages of the present invention will be more fully appreciated as the same becomes better understood from the following detailed description when considered connection with the accompanying drawing in which reference characters designate like or corresponding parts through the several views and herein.

#### **FIG. 1**

Shows an embodiment suitable for automobiles in which a selector shifting device is included.

#### **FIG. 2**

Shows the shifting device used in motorcycles.

#### **FIG. 3**

Represents a graphic showing the transmission torque curves.

FIG. 4 1)Engine 2)Transmission body 3)Accelerator pedal 4)Bypass valve  
5)Pressure valve 6)Driving wheels.

#### **DETAILED DESCRIPTION OF THE INVENTION.**

In accordance with the first embodiment as show in Fig. 1, the engine torque is transmitted at a time, to: the sun gear 2, by means of the shaft 1, and to hydraulic torque converter 3.

At low engine rotation, two things may happen:

**First:** In Fig. 1, meanwhile the sun gear 2 is moving, if the ring gear 5 is stopped in one way by means of the free wheel 11 placed between the output shaft 10 and drum 9 on which a brake 7 or any braking device is applied, the satellites 4 start moving (translation movement) around the sun